ST. BARTHOLOMEW'S

HOSPITAL JOURNAL

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ANALGESIA IN CHILDBIRTH

Once more Mr. Bevan has raised high his banner of political chicanery by accusing Mr. Thorneycroft's recent "Analgesia in Childbirth" Bill of being no more than a political stunt exploiting human pain. Quite rightly the reaction both in Parliament and the Press to this statement was a storm of protest, for surely this of all Bills is of a non-party issue; it was gratifying, therefore, that in spite of Mr. Bevan's protest, the Bill passed its second reading without further obstruction from either party.

The problem of analgesia in childbirth has always been an urgent, though neglected one. Recently, however, with the report by the sub-committee of the Medical Women's Federation published in the B.M.J., the great need for the general availability of analgesia in labour has been brought to the public eye. The results of their investigations showed that women doctors who had experienced childbirth were almost unanimously in favour of the relief of pain during parturition.

The opinion of such witnesses who can visualise the benefits offered by analgesia both from the maternal viewpoint and from the more detached medical aspect, must bear great weight with the critics of painless labour.

Ever since Sir James Simpson first advocated the use of anaesthesia and its pain-relieving qualities in the process of childbirth, his humanitarian conception of painless labour, has been fiercely contested by certain sections of the community with a variety of ill-founded arguments.

Before however one can dub any contention as "ill-founded" it is necessary first, to show that such arguments are in fact without a logical basis, and it is therefore not out of place to recapitulate and attempt to answer them.

The application of anaesthesia to labour as conceived by Sir James Simpson was opposed initially by a great body of religious thought; it quoted blindly from the Bible in an attempt to show that the pain of childbirth is a visitation from the Almighty upon woman in punishment for Eve's sin in the Garden of Eden. It would be sinful and unnatural to relieve such pain they protested. The medical world, too, was of the opinion that painless birth would be unnatural. "Pain," they said, "in the process of parturition, is a desirable, salutary and conservative manifestation of the life force." Such bigoted dogma, however, could not stand before the advance of more rational thought which was taking place at that time and the final death blow to its arguments came when Queen Victoria consented to undergo labour with the assistance of chloroform. In point of fact the limited knowledge and technique which then existed made any general application of anaesthesia to such a common occurrence quite impracticable.

A more cogent argument against the use of analgesia was later developed by Eugène Marais, the South African naturalist, in his book "The Soul of the White Ant."[3] He maintained that the pain of childbirth has a definite biological value. It is the stimulus of the maternal instinct. "We find," he says, "that birth pain is the key which unlocks the doors of mother love from the termite to the whale. Where birth pain is absent there is absolutely no mother love." This opinion he supported by experimental evidence from

a herd of half wild kaffir buck. Apart from the startling generalisation of his statement, his argument attracted a number of followers, and is one which cannot be lightly ignored. His contention can however be answered in two ways. Firstly it is surely not legitimate to apply his observations of mother love in kaffir buck, assuming those observations to be correct, to the human mother, where instinct, which predominates in the animal, has become subordinated to reason. It is difficult to believe that a mother will love her child in direct ratio to the pain she suffers at its birth. Secondly, experience has shown that mothers who have undergone labour under painless conditions do not love them any the less for it. Moreover, it is not infrequently recorded that the mother-child relationship is disturbed by the resentment of the mother to her child arising from the agony of her ill-conducted labour. Normal birth is a physiological process, whilst pain is a manifestation of a pathological condition. Normal birth should be a relatively painless procedure. In the majority of cases, the young mother faces childbirth in an agony of apprehension. Labour, she has been told by her female friends, is invariably painful. She hears hair-raising tales, in many cases exaggerated for the benefit of the hearer, of the pain suffered during childbirth. With this background of fear, the onset of labour becomes a thing to be dreaded; it cannot be conceived as the greatest of all natural functions, which should give the mother the emotional significance of birth, accomplished not with pain and suffering, but with joy.

Grantly Dick Read has appreciated this psychological factor, and the methods which he teaches in his "Natural Childbirth"[1] and the "Revelation of Childbirth"[2] are aimed directly at overcoming this fear. There are still many opponents of his methods, but the mass of testimony which has accumulated, not only in this country but also in America, where his methods have been practised, in support of his work must be sufficient to convince an unbiased mind of their efficacy.

The mother who is taught to expect a painless labour, and in fact to look forward to her confinement, does experience in the great majority of cases, an easy and satisfying labour. Eighty per cent. to 85 per cent. of normal births, states Read, can be achieved entirely free of pain, and this without the aid of analgesia.

As in all things, the dangers of a method lie in its extremes. Helen Deutsh says of obstetrics that it is a man made science and " . . . a masterpiece of masculine efficiency, but it deprives woman of her active participation in delivery and thus in a sense of her monopoly in this field." Her statement is true, but it is aimed principally at anaesthesia, and not analgesia. Read himself states: "Normal woman in labour should have no more pain than she is willing to bear, not able to bear, but willing to bear."

The place of analgesia in childbirth, should it be necessary, lies in establishing a mean which satisfies, as far as possible the sentiments expressed by both Deutsh and Read.

With the realisation in mind that pain in childbirth is both unnecessary and undesirable, it becomes evident that there is a pressing need for re-education in the mental approach to procreation of numerous practitioners who visualise pain as an integral and unavoidable part of the birth process, and an equal need for the improvement of the medical services at present available to the expectant mother.

Mr. Thorneycroft's Bill though not the whole answer to the problem is at least a very fair beginning, and though the introduction of such measures as it advocates will be a long task, it is one which should not be further delayed. Mr. Bevan's attitude to the Bill will not assist the promotion of such measures.

[1] Grantly Dick Reed: "Natural Childbirth." 1933.
[2] Grantly Dick Reed: "Revelation of Childbirth." 2nd Ed. 1943.
[3] Eugène Marais: "Soul of the White Ant." 1937.

THE JOURNAL

Contributions must reach the Editor before the first Tuesday of the month for inclusion in the following number.

The Editor apologises for an error in the title of the article by A. B. Haigh which appeared in the April number. It should have read "An Unusual Space Occupying Intracranial Lesion."

SOME ASPECTS OF PAIN

By V. C. MEDVEI, M.D., M.R.C.P.

JUST over a hundred years ago Johannes Mueller[1] made public his theory of the specific energy of nerves. This was the beginning of the scientific and experimental analysis of the senses and of pain. It made possible the sharp division of the pain "sense" and of the pain "emotion," with the result that at the beginning of the 20th century the sensory theory of pain was generally accepted. The traditional pleasure-pain theory regarding pain as an "emotional quale" — and dating back to Plato and Aristotle[1], was put into the background. It would have been dropped completely by the pioneers of the pain-perception theory, had it not been for the quality of unpleasantness inherent in pain. In an endeavour to explain the latter away, Herbert Nichols[1], one of the first psychologists who accepted the sensory theory, searched for the nerves of pleasure, and eventually declared that they are in the organs of sex and nutrition.

During the first half of the present century anatomists, physiologists, pathologists and clinicians succeeded in establishing the peripheral pathways of pain perception, in localising cerebral centres, and in interpreting the apparent non-adaptability of pain. But in spite of the magnificent work of men like Schiff, von Frey, Weir Mitchell, Henry Head, Charles Sherrington, O. Foerster, Thomas Lewis, Cushny, J. Morley, H. S. Gasser, R. Leriche and, more recently, H. G. Wolff and Henry Cohen[1], the sensory theory has not proved sufficient to explain more than certain—though very important—aspects of pain. As Sherrington remarks in his "*Foreword to* 1947 *Edition*" of "*The Integrative Action of the Nervous System*" ... "In all those types of organism in which the physical and the psychical co-exist, each of the two achieves its aim only by reason of a contact utile between them. And this liaison can rank as the final and supreme integration completing its individual. But the problem of how that liaison is effected remains unsolved: it remains where Aristotle left it more than 2,000 years ago." And Leriche puts it thus: "Physical pain is not a simple fact of nervous impulses travelling over a nerve at a predetermined gait. It is the resultant of the conflict between the stimulus and the individual."

At present these two facets of pain, the perception and the emotion, appear accepted as being complementary. The study of the sensory mechanism has made such enormous strides, that it is perhaps advisable to rest for a moment and consider the other facet. This paper will deal with some—and only a few—aspects of pain as an emotional quale.

The practical importance of such a contemplation will become more obvious when the recent controversy is recalled on the question of pain in childbirth, ending—for the moment—with the "Report of the Subcommittee of the Medical Women's Federation" a few weeks ago. A hundred years ago a similar controversy existed, when anaesthesia was introduced into surgery. It may sound incredible that a surgeon declared "pain was a wise provision of nature, and patients ought to suffer pain while their surgeons were operating; they were all the better for it and recovered better." Even the discovery that according to Genesis, ii, 21, "And the LORD GOD caused a deep sleep to fall upon Adam, and he slept: and he took one of his ribs, and closed up the flesh instead thereof"; did not finally decide this battle waged with invective, abuse and quotations from the Bible. It needed a royal gesture, Queen Victoria's painless labour under chloroform, to make anaesthesia acceptable.

In our days a neurologist of the eminence of F. M. Walshe writes on "Psychogenic Pain" as follows[1]: "In 'Psychogenic pain' none of these anatomical mechanisms or physiological processes is involved and the symptoms so named have no sensory quality to which the term pain can rightly be applied. They are not primary sensations but complex states of mind, emotionally toned ideas which would be more fittingly described as 'anguish,' 'grief,' 'distress,' or 'anxiety.' The subject of 'psychogenic pain' should rather be said to have a fixed idea or obsession about pain, or, alternatively to be using the word 'pain' figuratively because he cannot more adequately describe the distress of mind from which he suffers. Thus stated, the difference between physiogenic pain and psychogenic 'pain' should be clear." This does not seem to fit in with the most recent investigations on pain in phantom limbs, nor with certain observations on congenital in-

difference to painful stimuli (*Asymbolia for Pain*," Schilder and Stengel[2]; Ford and Wilkins[3]).

One of the arguments against the existence of psychogenic pain is, that pain cannot be felt in dreams. Although it is admitted that the pain of a toothache may be felt during sleep, the existence of a sudden pain in a dream, independently of any stimulus, is denied, and regarded as not sufficient to arouse a man from sleep. I believe, however, with Macdonald Critchley[4], that during a dream we are able to suffer pain, just as we are able to feel, to hear, and have perfectly natural sensations of taste. As Critchley points out, "the memory of pain is notoriously short, and it is not surprising that on waking little or no recollection of the pain-sensations should remain." Further evidence for this is the fact that hypnosis can induce and increase pain sensation without any physical stimulus. Pain without the pain-feeling, the subjective experience of pain, could not exist. Finally, definite psycho-galvanic response could be shown in cases of pain induced by hypnosis (Levine[5]). Keele's method of distinguishing "psychogenic" from "physiogenic" pain was discussed elsewhere[1].

The cognitive aspect of the quality of pain may, therefore, be separated from the affective aspect of the pain-feeling and of the emotion of unpleasantness for the sake of study and analysis. It has to be realised, however, that both are merely aspects of one and the same experience. Thus, in overwhelming pain the cognitive factor is minimal, because there is clouding of consciousness, and the sufferer is insensitive to his surroundings; deep visceral pain has hardly any qualifying sensation. In contrast, negligible pain causes no impairment of consciousness and no distraction from surroundings. As these surroundings include the patient's own body, on which the pain is experienced, such pain is detached from personality, is nearest to a pure sensation, and can be localised with exactitude.

Of other psychological processes accompanying pain, depression is one of the commonest in the case of protracted or recurrent pain, and is of particular interest. It is remarkable how rare is suicide because of intractable pain. During 1923 there were reported 391 cases of suicide in Chicago, but only 11 of them were said to be caused by protracted or recurrent suffering from pain (quoted after Critchley): 10 of them were men. In Forbes Winslow's series of 7,190 cases, pain is not mentioned in a single case. Another investigator points out that more people commit suicide because of an incurable tinnitus than an intractable pain (Crichton Miller)[6].

Whereas depression may be one of the mental effects of protracted pain, severe (psychogenic) pain does not usually accompany cases of a primary mental depressive state. In fact, the threshold for pain is often increased in such a state, and this has been held as an argument against the existence of psychogenic pain. But this increase of the pain threshold is usually only temporary, and is not present when neurasthenic or hypochondriacal traits dominate the picture.

Another point of interest and importance is that the pain of the thalamic syndrome (Déjerine and Roussy) may resemble some forms of hysterical pain. They are both out of proportion in intensity to a known stimulus, cannot be correctly localised, and are affective in character. In the thalamic syndrome, cutaneous and deep pain develops, after a stage of defect of sensation, which usually includes all forms. The pain is comprehensive in its distribution, but worst in the limbs, where it feels as if the foot or hand is being crushed and twisted. Otherwise, the pain is said to be stabbing, boring, burning, aching. The condition is exacerbated by cutaneous hyperalgesia, so that stroking or scratching can elicit the whole gamut of pain experience. Obviously, apprehension and dread of contact may lead to obsessional traits, lack of sleep, fatigue and exhaustion, to anxiety and to drug addiction. On the other hand, objective manifestations may exist in cases of hysterical pain, and pupillary dilatation, tachycardia and pallor can be caused by the mere memory of a painful experience.

That emotional factors influence the threshold for pain is well known. It becomes raised under the stress of battle, in anger and in pleasure, whereas fear, apprehension and introspection may lower it. Less well appreciated, although known, is the fact, that the threshold for other sensations may be unaltered; hence the man hit by a bullet notices it first when he sees blood flowing from the wound, or feels the warmth and dampness of the blood, he cannot see.

Racial factors have a great influence on sensitivity to pain and have been carefully

studied. Broadly speaking, civilised races are more sensitive than the uncivilised, but there are wide variations within both groups. A considerable lowering of pain-sensitivity is known in certain cases of hysteria. If consciousness in such a case is not impaired, its study is of particular interest, because of the similarity to ecstatic states of martyrs of all religions. Yet even in this field there is a wide range of differences. Stoic philosophies, teaching development of the spiritual part of life by the proper training of self-control and discipline are vastly different from certain types of ecstatic display of some flagellants, dervishes and fakirs. The stoic is equally indifferent to pain and to pleasure; in the case of some martyrs "divine happiness" (i.e., pleasure) may be experienced through the suffering of intense pain.

More difficult to explain are the feats of sadhus and fakirs, who lie on a bed of spikes, walk over glowing coals, eat glass and perform other acts of self-mutilation, often without the frenzy of religious orgy. J. H. Hunt, who studied them carefully[6], concluded that it is their mental condition which is abnormal from that of Europeans; physically, their bodies react very much the same as ours under similar conditions.

On the other hand, it is well known that in migraine, for example, the mental and emotional background is equally important as the physical underlying condition and, in some cases, decisive. Similarly, Grantly Dick Read[7] has maintained for years that the pains of labour are caused by fear. The autonomic system, which controls the relaxation of the cervix, is connected with the thalamus, the seat of primitive emotions. Fear, which is one of them, may produce cortico-thalamic inhibition, and thus primary uterine inertia. Psychological training from the beginning of pregnancy may remove fear and enable complete relaxation at will and diminution of pain, which can be "almost entirely" avoided in most cases of normal births. Read's method has been applied successfully by a number of reliable and expert observers. It should be stressed, however, that he agrees that pain in childbirth may occur, "and should be obliterated by other means (i.e., anaesthesia) when it cannot be avoided."

As a final remark on the mental aspect of pain, the rare records of "sympathetic" pain may be of interest. Critchley quotes examples from literature where the "victim's agonies are shared by a loved one." Certain South American Red Indian tribes express such a state symbolically by the husband taking to bed when the wife is in labour. Scientifically more impressive in this respect appear, however, pain experiences in identical twins, as mentioned by Sir Francis Galton as early as 1883.

I have no doubt that the study of pain in such twins will prove more fruitful for the knowledge and understanding of both aspects of pain than many experiments in the strictly limited physiological field of pain as a sensory perception; and the study of pain will remain one of the principal objects of medical research.

[1] Cit. after Medvei, Buckston Browne Prize Essay, 1948: *"The Mental and Physical Effects of Pain."* E. & S. Livingstone, Edinburgh, 1949. (In print.)

[2] Scrilder, P. and Steugel, E. *Arch. Neurol and Psych.* (1931), *25*, 598.

[3] Ford, F. R. and Wilkins, L. *Bull. Johns Hopkins Hosp.* (1938), *62*, 448.

[4] Critchley, M. *Bristol Med.-Chir. Journal* (1935), *52*, 191.

[5] Levine, M. *Johns Hopkins Hosp. Bull.* (1930), 331.

[6] Hunt, J. H. *St. Bartholomew's Hospital Journal* (1934-35), *42*, 11, 31, 55.

[7] Read, G. D. *Natural Childbirth*, London, 1933. *Revelation of Childbirth*, London, 1943.

[8] Galton, Sir Francis. *Inquiries Into Human Faculty, etc., Ed. Everyman*, p. 162, London, 1928.

TWELFTH DECENNIAL CLUB

It is proposed to hold a meeting of this Club which incorporates those men who are now qualified who entered St. Bartholomew's Hospital between October, 1925, and October, 1935, on Friday, May 13th, at 6 p.m., at the Hall of the Society of Apothecaries, Water Lane, E.C.1.

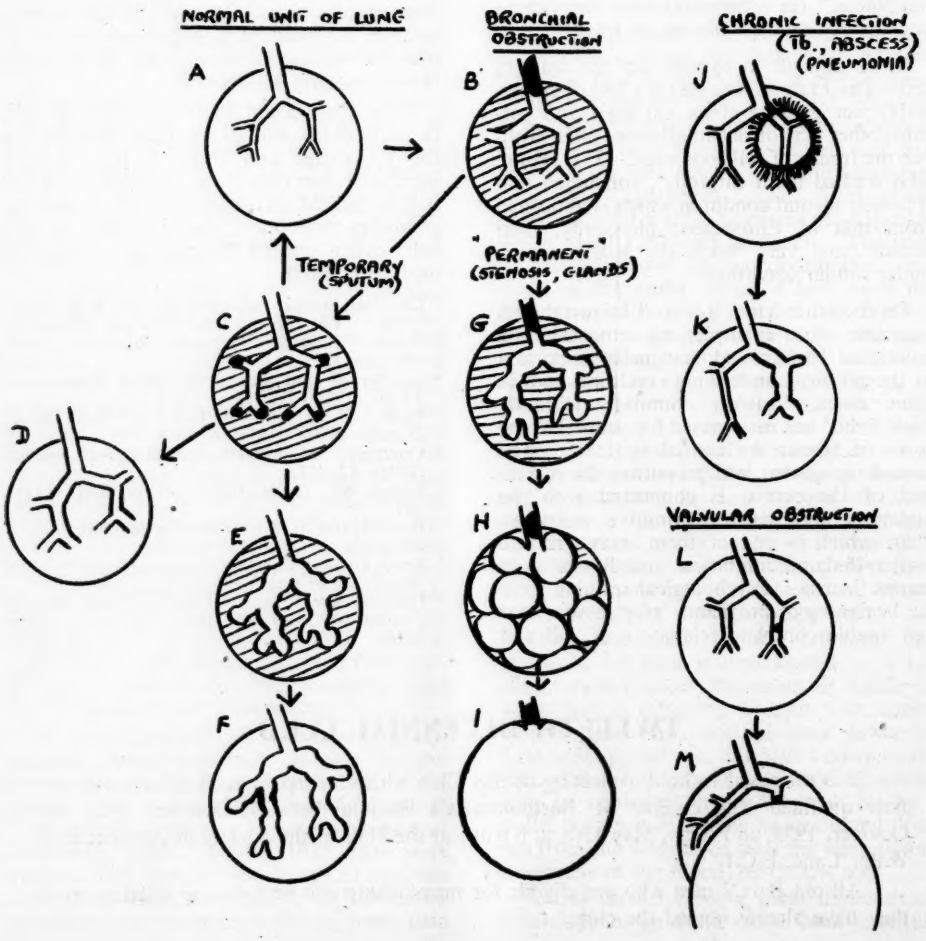
All old Bart.'s men who are eligible for membership will be welcome whether or not they have already joined the club.

THE DEVELOPMENT AND ASSESSMENT OF BRONCHIECTASIS

By N. C. OSWALD, M.D., M.R.C.P.

BRONCHIECTASIS denotes permanent or semi-permanent bronchial dilatation, which is liable to give rise to sputum, haemoptyses, and chronic pneumonia. The name is not altogether satisfactory as it lays too much emphasis upon the shape of the bronchial walls and takes no account of pulmonary changes between the bronchi which often are of considerably more clinical importance than the defects in the bronchi. It may arise in at least four different ways, namely as a result of "permanent" bronchial obstruction, temporary bronchial obstruction, valvular bronchial obstruction, or chronic pulmonary infection. These mechanisms are shown in the diagram. (A) represents a normal unit of lung which may be either a whole lung, a lobe, or part of a lobe. When a bronchial

STAGES IN THE DEVELOPMENT OF BRONCHIECTASIS



obstruction occurs, air behind the obstruction is absorbed with resulting collapse of the unit and cylindrical bronchial dilatation (B), the shaded lines indicating that the lung is collapsed. Should the obstruction be temporary, as by sputum, the distal negative pressure will tend to suck the sputum further into the lobe (C); this is the state of affairs in such conditions as post-operative atelectasis and atelectasis associated with whooping cough or bronchitis. If the sputum is dislodged quickly, the lung usually returns to its original state (A); if it is not, permanent changes may occur in the bronchial walls, so that when the lung does re-expand, the bronchi remain cylindrically dilated (D). Should the bronchi become severely infected before expansion occurs, saccular bronchiectasis results, which is an irreversible condition (E). Possible subsequent re-expansion (F) depends largely upon whether or not the alveoli between the affected bronchi are damaged.

Should the bronchial obstruction depicted in (B) be "permanent," as by an organic stenosis, pressure of glands from without or foreign body, the subsequent course depends upon the nature of the bacteria distal to the obstruction. If they are not pathogenic, benign atelectasis with some degree of cylindrical bronchial dilation may persist indefinitely. If pus-forming organisms are present, the bronchial tree is liable to be distended by pressure of the pus, quite apart from any destructive lesions of the bronchial walls that the infection may produce (G). In a few instances, the bronchial tree is grossly distended (H), or may even take on the appearance of a cyst (I).

When a portion of lung is the site of chronic infection, as in tuberculosis, lung abscess, or pneumonia, all the elements of the lung may be involved in the inflammatory process (J). The end result of this may be a patch of irregular bronchiectasis confined to the site of the original infection (K); this is commonly seen in chronic fibroid phthisis and as a complication of lung abscess. The importance of the mechanism in cases of pneumonia is very difficult to assess. So often patients suffering from bronchiectasis date their symptoms from an attack of pneumonia, but whether the bronchiectasis results mainly from the destructive effects of the pneumonia itself, or from bronchial obstruction and atelectasis due to sputum, must remain largely a matter for conjecture.

The fourth possible mechanism in the production of bronchial dilatation is by a valvular mechanism, whereby a partial bronchial occlusion allows the passage of more air along the bronchus during the phase of dilatation in inspiration than can escape during the phase of passive relaxation in expiration (L). In time, this results in cyst formation (M).

Thus, bronchiectasis is not a disease in itself, but a complication either of some form of bronchial obstruction, or of chronic pulmonary infection. The underlying cause should be sought in every case and treated where possible.

CLINICAL ASSESSMENT.

The clinical assessment of any case of bronchiectasis naturally falls under six headings, namely—

(1) The daily quantity of sputum should be assessed. If it is more than two ounces, the case can be regarded as clinically "infected," due regard being paid to whether or not systematic postural drainage has been employed, as grossly infected cases can often have their sputum reduced to a trace by this method. It is as well to remember that the quantity of sputum expectorated is a fallacious guide to the state of the infected lung, as not infrequently patients producing little sputum are found to have large quantities of pus in their lungs at operation.

(2) Haemoptyses are uncommon in children, but increased in frequency and quantity with age. Once haemoptysis has occurred, and it occurs in the majority sooner or later, it is likely to be repeated.

(3) The number of attacks of pneumonia associated with the bronchiectasis should be determined.

(4) The anatomical extent of the disease should be estimated accurately by bronchograms outlining all the principal bronchi in both lungs. This is obviously essential in any case in which pulmonary resection is contemplated.

(5) The age is of considerable significance from the surgical standpoint. The ideal time for pulmonary resection is at about the age of ten, although good results with little in the way of complications and sequelae can be expected up to about the age of thirty-five. Beyond this age, pulmonary resection should be less lightly undertaken.

(6) The secondary effects of bronchiectasis, both local and general should be assessed. The local effects consist of

fibrosis, emphysema, chronic pneumonia and bronchitis. The general effects include chronic ill-health, stunting of growth and clubbing of the fingers.

The majority of cases of bronchiectasis have, perforce, to be treated medically, either because the disease is too extensive for pulmonary resection, or the patient is too old, or there are complications. Excellent clinical results are often obtained by prolonged postural drainage, which includes sleeping on a frame at night in the position most suitable for the promotion of bronchial drainage.

It is evident from the chart that cylindrical bronchiectasis may be reversible; it may be taken as a general rule that cases of this sort should be treated medically for six months, particularly if there is associated atelectasis, as it is usually impossible to determine from a single film whether or not the bronchi have been permanently damaged.

Surgical resection, the only cure for established bronchiectasis, is an excellent form of treatment in the younger age groups when the anatomical extent of the disease is not too great. It is applied usually to cases troubled by either foul-smelling sputum, haemoptyses, or recurrent pneumonia, or any combination of these, which fail to respond to other forms of treatment. The mortality from the operation is negligible and the complications slight in carefully selected cases.

A GREY ELEGY

Written in a London Fog.

The foghorn wails adieu to parting day.
The jostling crowd gropes slowly down the Strand.
The worker homewards plods his weary way,
And grumbles in the darkness "What a land!"
Now smarts the acrid vapour on the sight,
And all the air a solemn stillness holds,
Save that from taverns, far into the night,
Escape the sounds of raucous coughs and colds.
Save that from yonder mist-enthralled tower
Great Ben doth force the trav'ller to complain,
As far aloft he booms the passing hour,
"Confound the fog, I've missed the blessed train."

G. J.

THIRTEENTH DECENNIAL CLUB

The second meeting of the Thirteenth Decennial Club was held on the 3rd of December, 1948, in the Refectory at Charterhouse.

It was in some ways an unsatisfactory reunion. Members felt that the Refectory lacked convivial atmosphere, but it must be remembered that the Hall was lent by the Medical College, at this stage of the Club's growth an economic necessity.

The main complaint, however, concerned the inadequate catering—insufficient food and expensive drinks, despite the fact that the previous year the caterers had appeared satisfactory. The Secretaries have sent a sharp letter to the Company and different arrangements will be made next year.

The meeting was redeemed by Prof. D'Silva, who took the chair and spoke with his usual charming dryness. He reminded members that this was not only the last Decennial Club to sport all-male membership, but the final one to be born "out of bondage."

It is hoped that next year members will not be deterred by the shortcomings of this last reunion, and will make the effort to meet again. Indeed, we understand in the old days men were known to return for meetings even from the wilds outside the Home Counties. But then, of course, we were all out of bondage.

CORRESPONDENCE

THE MORTAL LANDLADY

To the Editor, St. Bartholomew's Hospital Journal.
Dear Sir,

Your contributor David Carrick has again enlivened the columns of the JOURNAL, this time with a delightful account of the vagaries of The Eternal Landlady; joyously we read on, and can now classify our own as well as recognise each other's.

However, two points arise, both of which need amplification so, with the author's permission, I will proceed. And, Sir, if any of your readers are tired of studying under street lights on the Embankment, or are bored with roystering each night in a friendly tavern for want of a happy lodging life, they may take comfort from my words: indeed, I venture to hope they may cheer the luckless students who, speaking lightly of "Landlady Trouble," lift a curtain from their own drab world where they are being hounded, if not from district to district, from front-room to back, and from back-room to basement.

Firstly, where are the cheerful bodies who encourage their lodger's waywardness with kindly words and good advice? Mr. Carrick's final example is a monster who does not represent them fairly. We know of one, with crippled joints and aged partner—a charming Darby and Joan couple they make—who recently censured her lodger for becoming engaged to a lady he had only known for five months. "You haven't tried living with her," she asserted plaintively. The reply naturally included a query whether she ever practised her own advice. "You mean my husband and I?" she smiled. "We're not really married yet." Students are respectfully informed that these digs are not to let.

Secondly, the recognition of the different kinds of landlady is important, but careful selection may compensate for faulty treatment. In this as in any game there are rules to be followed. After arrival at new digs, the lodger is on his best behaviour, the landlady watches, cat-like for signs of bad behaviour. The first mistake is usually made by the landlady, who confuses her lodger's politeness with weakness and stupidity: she proceeds to progressive criticism and increasing complaints. The lodger continues to behave carefully, and avoids counter-criticism. Eventually, the lady makes a more serious mistake in the form of trivial or unsubstantial criticism. This is the moment for which the lodger has waited.

Instantly, he closes the door and counters with a simple question, "Madam, am I the worst lodger you have ever had?" or "Are you proposing to drive me out of my mind, or just into the street?" A negative reply is the lady's third mistake. The lodger presses his advantage, speaks rapidly for perhaps four minutes—the form of words is unimportant — then suggests that the lady should leave. It is important to ensure that this happens at once.

The lodger need not pack. He simply lights a coal fire, removes a representative selection of Landseer and Alma Tadema from his walls, rests his feet upon the mantleshelf, and smokes freely. The prognosis is very good.

The next day he expresses gratitude for, but not surprise at, his early cup of tea. He does justice to an excellent hot lunch served immediately upon his return from the hospital, and expresses approval of the fresh flowers in his room.

This concludes the game, and the players now live amicably under the same roof until the landlady dies or the student qualifies, whichever is the earlier.

I am, Sir,
Yours faithfully,
J. McO.

The Abernethian Room,
St. Bartholomew's Hospital.
16th March, 1949.

SPECTACLES AND THE NATIONAL HEALTH SCHEME

To the Editor, St. Bartholomew's Hospital Journal.
Dear Sir,

I was interested to read the remarks of your correspondent, Mr. J. B. D. Andrews, about the enormous number of spectacles provided under the National Health Scheme. This, he says, points to the fact that many people needing spectacles in the past did not obtain them for economic or other reasons. I would like, if I may, to occupy a little of your space with a statement of fact about the provision of glasses under the N.H.S. and before it.

1 It is quite untrue to say that before July 5th, 1948, anybody was deprived of the benefits of spectacles for economic reasons. In those days an accurate pair of glasses was provided by the Hospital Opticians for the sum of 10s.—12s. Moreover, because the control of these glasses was in the hands of doctors who knew when glasses were necessary the execution of these orders was immediate and the patient received his glasses in a few days. If he could not afford this price the spectacles were presented to him through one of the charitable funds of the Hospital.

2 I am not in the least surprised that 2,357,000 pairs of spectacles were provided under the N.H.S. between July 5th and November 23rd, 1948. Most of these spectacles were obtained by walking into a shop and they were provided for every symptom concerning the eyes and many not even remotely associated with them. Because they cost the patient nothing, and because they were unnecessary in the first place, they were abandoned after a brief period without regret. But let it be remembered that each pair of glasses so prescribed cost the "State"—which is you and me and the other chap—£4. Moreover, the patient now has to wait anything up to six months before the glasses are delivered.

Glasses are only of benefit if they are necessary and the huge number provided under the N.H.S. is not in any way an indication that the public, before July 5th, 1948, went short of any spectacles which were needed.

Yours faithfully,
SEYMOUR PHILPS.

104, *Harley Street,*
*London, W.*1.
April 8th, 1949.

SIR JAMES PAGET AND ST. BARTHOLOMEW'S HOSPITAL

By

JOHN L. THORNTON and GWENETH WHITTERIDGE, M.A., D.Phil.

Based on a Demonstration to the Paget Club, June, 1948.

JAMES PAGET was born at Yarmouth on January 11th, 1814, the son of Samuel Paget, a prominent ship owner, banker, brewer, "train-band" captain, and in 1817, Mayor of the town. Young James felt the call of the sea, and intended to enter the Navy, but after attending a private school, in March, 1830, was apprenticed to Charles Casterton, a surgeon in practice at Yarmouth. After 4½ years James proceeded to London, but had already become deeply interested in natural history, particularly botany. With his brother Charles he published *A sketch of the natural history of Yarmouth*, which appeared in November, 1834, priced at half-a-crown. James wrote later of the work involved in preparing the volume: "The knowledge was useless: the discipline of acquiring it was beyond price."

Paget entered Bart.'s at the beginning of October, 1834, when Lawrence, Stanley, Latham, Roupell, Farre, Wormald and Hue were teaching, and Burrows was a junior. The School had rapidly declined since the retirement of John Abernethy, but the Museum was good, being based on collections presented by Abernethy and Stanley, and there was a small library stowed away in a room next to the operating theatre.

In 1835, School examinations were held (having been inaugurated in 1834), and Paget entered for Medicine, Surgery, Chemistry and Botany, to emerge first in all four. His prize for Surgery consisted of the second edition of Astley Cooper's *Anatomy and surgical treatment of abdominal hernia*, 1827, which was presented to the Library by Sir Norman Moore in 1910. Also in his first year, James Paget discovered the *Trichina spiralis* in a subject in the dissecting room, and although Sir Richard Owen appears to have attempted to gain the honour of priority, Paget read a paper on the subject before the Abernethian Society on February 6th, 1835, an abstract being available in the Minutes of the Meetings of the Society. Owen's paper (*Trans. Zoo. Soc.*, 1835, i, pp. 315-24) is illustrated by reproductions of specimens first observed by Paget.

In his second year James Paget took Anatomy, Physiology, Clinical Medicine and Medical Jurisprudence, and the interest aroused in his successes of the previous year was enhanced by his once more occupying the premier position in all subjects.

On May 13th, 1836, James Paget passed the membership examination of the College of Surgeons, and his Certificate is preserved in the Library. Among others, it contains signatures of John Goldwyer Andrews (President), Sir Astley Cooper, Sir Anthony Carlisle, Honoratus Leigh Thomas, Robert Keate, John Painter Vincent, George James Guthrie, Anthony White, Sir Benjamin Collins Brodie and Samuel Cooper, all of whom held the office of President during their careers.

Paget now waited for an appointment at the Hospital. He took a few pupils, wrote for the *Medical Gazette*, of which he was sub-editor from 1837-1842, and learned Dutch and Italian, having previously acquired French and German. He did journalistic work for the *Quarterly Review*, the *Penny Cyclopaedia*, and the *Biographical Dictionary*, published by the Society for the Diffusion of Useful Knowledge. He generally worked until 1 or 2 o'clock every morning, but was very poor. His father had died, after the failure of his business, and the sons set out to repay all creditors. The last payment was made in 1862.

In 1837 Paget was appointed Curator of the Museum, and he made a catalogue, continuing that of Stanley, the completed work being published in three volumes. The original manuscript is preserved in the Hospital Archives. This led to his being invited to compile a *Catalogue of the pathological Specimens of the Royal College of Surgeons of England*, which was originally published in five volumes, 1846-49. In the preparation of a second edition of four volumes, published 1882-85, Paget was assisted by J. F. Goodhart and Alban Doran.

James Paget was ill with typhus during the first three months of 1839, but in the summer was appointed Demonstrator of Morbid Anatomy at Bart.'s. Two years

later he became surgeon to Finsbury Dispensary, and in 1843 was elected one of the original Fellows of the College of Surgeons. The same year Paget took up residence inside the College as Warden, which position he occupied until 1851. He had married in May, 1844, spending a one-day honeymoon at Oxford.

Also in 1843, Paget became Lecturer in Physiology, his lectures providing most of the material for the first edition of William Senhouse Kirkes's *Hand-book of Physiology*, 1848, which, under various editors has survived to the present day. It is now edited by R. J. S. McDowall. The year 1847 saw the appointment of James Paget as Professor of Anatomy and Surgery at the College of Surgeons, and he also became Assistant Surgeon to Bart.'s. It was during the period 1849-50 that James Paget, as Warden of the College, was responsible for the admission of Elizabeth Blackwell, the first woman to study in the Hospital.

Paget published his lectures on general pathology in the *Medical Times and Gazette*, these being later revised and published as *Lectures on surgical Pathology*, 2 vols., 1853, a pioneer work on the subject. A second edition, revised and edited by William Turner was published in 1863, a third in 1870, and a fourth in 1876.

In 1874 and 1877 respectively, James Paget published original descriptions of "Paget's disease of the nipple," (*St. Bart. Hosp. Rep.*, 10, 1874, pp. 87-89) and "Paget's disease," (osteitis deformans), (*Med-Chir. Trans.*, 60 1877, pp. 37-64; 1882, pp. 225-236), both of which are recognised as classic contributions to medical literature.

Among the many honours bestowed upon Paget, the following in particular deserve mention: in 1851 he was elected F.R.S., and served five times on the Council; March, 1858 saw his appointment as Surgeon Extraordinary to Queen Victoria; and he was appointed a member of the Senate of London University in 1860.

On April 3rd, 1861, Paget was appointed Senior Assistant Surgeon, and on July 24th, Surgeon to Bart.'s, and in the following year was elected Surgeon to Christ's Hospital. He became Surgeon-in-Ordinary to the Prince of Wales in 1865, and in the same year became Lecturer on Surgery at Bart.'s, holding that office until 1869.

October, 1867, saw the appointment of James Paget as Serjeant Surgeon Extraordinary to Queen Victoria, and ten years later he became Serjeant Surgeon, the patent for which, with its magnificent seal, is housed with the Hospital Archives. It is accompanied by Paget's certificate of honorary Fellowship of the Royal College of Surgeons in Ireland, dated April 20th, 1886.

James Paget was President of the Clinical Society in 1869, of the Royal Medical and Chirurgical Society and of the Royal College of Surgeons in 1875, and of the Pathological Society in 1887. He received numerous honorary degrees and distinctions, being created a baronet in 1871. In the same year he resigned his office of Surgeon to the Hospital, and was appointed Consulting Surgeon. Sir John Millais painted his portrait in 1872, and it now hangs in the Great Hall.

Sir James Paget published *Clinical Lectures and Essays* in 1875, and two years later delivered the Hunterian Oration before the Prince of Wales, Gladstone, the Duke of Argyll, the Duke of Westminster, Dean Stanley, Lord Acton, and Huxley, among other distinguished persons present.

In 1878 Sir James Paget gave up operating, and on February 10th, 1881, he was elected a Governor of Bart.'s. When seventy-seven yeas of age, Sir James made a careful survey of his old cases, publishing the results as *Studies of old Case Books*, 1891.

Paget had addressed the Abernethian Society on its fiftieth anniversary, and on May 1st, 1895, he was present when Norman Moore gave an address at the Centenary Celebrations. Sir James, himself, gave the Inaugural Address of the 100th Session, which was probably his last paper to be printed during his lifetime, and appeared just sixty years after his first publication. The address was published in the *British Medical Journal* of October 20th, 1894, pp. 874-877.

On January 7th, 1895, Lady Paget died, and in the following year Sir James finally "retired." He was unable to speak above a whisper, to move or stand without assistance, but bore these infirmities during the last two years of his life with infinite patience and humour. He still loved music, and liked to be driven around London in his carriage. Sir James Paget died on the night of Saturday, December 30th, 1899. Part of the funeral service was held in Westminster Abbey, but he was buried with his wife at Finchley.

Sir James Paget had prepared his "Memoirs," which his son Stephen proceeded to edit, the volume appearing in 1901.

It was reprinted on at least seven occasions.

The Medical College Library houses a certificate presented to Sir James Paget by the Abernethian Society in 1871 upon his resignation as treasurer; copies of reprints of his papers in periodical literature; a bibliography of his writings by Helen C. Putnam (1902); seven volumes of his case-books; some autograph letters, and portraits. Copies of testimonials to him, written out in his own neat handwriting, are preserved in the Hospital Archives.

A brief survey of such a full and distinguished career can only sketch in hazy outline the outstanding features of eighty-five eventful years. Paget built success from absolute poverty by sheer hard work, and achieved his pre-eminent position without making enemies. He was beloved by royalty and by the poor, while his professional colleagues held him in the highest esteem.

After John Abernethy, Sir James Paget should be regarded as the most outstanding personality in the history of the Medical College. As its first Warden and as a lecturer he impressed students by his upright character and professional knowledge. Yet, although dignified and fully conscious of the enviable position he had achieved, Sir James Paget did not allow success to turn his head. He was deeply religious and as his son tells us, "He would even say grace over his medicine." He is heard of at the present time mainly through the diseases which bear his name, but he should receive due consideration as botanist, anatomist, physiologist, pathologist, surgeon—and as an eminent son of Bart.'s.

SPORT

R. U. F. C.

March 5th, v. Old Colfeians

RESULT: WON BY 11 POINTS TO 3.

This fixture was arranged at the last minute owing to a late cancellation and provided a frankly disappointing game. Bart.'s were much the better side but failed to take many of their chances and only managed to give a mediocre display.

Starting well, the Hospital were soon ahead—through a good try in which most of the side handled before John went over and Dick added the points with a good kick. After this promising start, play became indeterminate, Bart.'s losing much of their fire and allowing the opposition to come near to scoring on several occasions; however, at half-time the score was 5—0 to Bart.'s.

After the interval, some more ragged play followed for about 10 minutes before Bart.'s got into their stride. John scored his second try of the match by taking the ball out of the hands of the opposing scrum-half; then Third kicked a good penalty goal and Bart.'s were now on top. A bad lapse in defence conceded one unconverted try.

March 12th, v. Nottingham

RESULT: DRAWN—3 POINTS EACH.

In a keenly contested, somewhat scrappy game Bart.'s played well to draw with the visitors from Nottingham. The Hospital pack showed plenty of life and although out-weighed managed to get more than their fair share of the ball from the set scrum; in the loose, Notts forwards were allowed to come through rather too often, but generally speaking the lively spoiling play of Bart.'s stopped many dangerous movements. The backs tended to lack speed and cohesion when running with the ball, but in defence the visitors were closely marked outside the scrum and given but few chances.

After a scrappy first half the game developed into a fast, open affair. Nottingham were unlucky not to have scored in the first half from two excellent drop kicks by their fly-half, but the sides crossed over without a score.

Macpherson opened the scoring for Bart.'s with a magnificent penalty goal from 35 yards, just after the restart. This led to some good open play and a strong Notts attack was stopped only by the excellent tackling of Roberts on the left wing. Bart.'s again swung into attack; the pace became hotter but the Hospital continued to press until, in the last 30 seconds, an excellent movement by Notts gave them a try far out; the kick failed from a difficult angle and so the game ended in a draw.

March 19th, v. Cheltenham

RESULT: LOST BY 0 POINTS TO 16.

An urgent last-minute telephone call to South Wales where Strong was on holiday, enabled us to field 15 men against Cheltenham.

We did not acquit ourselves well in attack, but good tackling by the backs kept the score against us to two goals, a try and a dropped goal. Pearce, the Cheltenham and Gloucestershire scrum-half, scored the greater part of his side's points. Despite an unusual pack supporting him and an unusually shaped right ear, our captain hooked with his customary competence, led his very weary followers with inspiring verve, and entertained the crowd to ghastly yells whenever his injured ear was subjected to trauma.

John supplied some bright moments in what was euphemistically described in the local Press as a "modest game."

March 26th, v. Moseley

RESULT: LOST—3 POINTS TO 27.

The home team started off in devastating form and had scored 13 points in less than 10 minutes. The spectators were obviously expecting a major rout, but the Bart.'s players pulled themselves together and, thereafter, fought gamely to the end.

The forwards, some of them out of training and in unusual positions, could never quite match the big Moseley pack: this superiority, plus the elusive Edge at stand-off half, were the deciding factors in a fast, open game.

Struthers and Clare were in fine form in the centre, and Murphy dealt suitably with Layton, while Baker maintained his excellent form at full-back.

Corbet scored the Bart.'s try by following up his

own kick ahead and winning the race for the touch-down. He followed this with an excellent piece of work when he deprived Edge of the ball when that worthy was ambling along behind the goal-line, hoping to touch down between the posts. Well done, Cobber!

Hick, who had been playing well, had the misfortune to fracture his tibia in the second half. The ever-versatile Holland deputised, much to the chagrin of Corbet, who always fancied himself as a scrum-half.

Dick thrilled the crowd soon afterwards with a crash tackle near the corner flag, which was executed with such force that he, too, nearly had to be carried off.

The pièce de résistance, however, came from a tall, fair-haired second-row forward. Let it be said at once that he played a truly stalwart game: so much so that he was taking a well-earned "breather" when Edge kicked ahead. The ball came to rest beside him and, seeing a clear way ahead, he was galvanised into action. The crowd rose to a man! A dash down the wing and he was over! Yet something held him back. Could anything be wrong? Or was he concocting some devilish cunning manoeuvre? Slowly he moved forward. The crowd roared. This was it! Alas, it was indeed. The skipper, who started three yards in front, just got back in time to receive the inside pass as the exhausted warrior sank slowly to the ground.

The Annual General Meeting of the R.F.C. will be held on Friday, May 6th, at 5.30 p.m., in the Medical and Surgical Lecture Theatre. This will be followed by the Annual Dinner, tickets for which may be obtained from either P. D. Moyes or J. L. M. Corbet.

CRICKET CLUB

The Captain this year is P. D. Moyes, the Secretary, P. G. Haigh. Trial nets have been arranged and it is hoped that all newcomers to the Hospital wishing to play in any of the teams will get in touch with either of the above.

M. D. Mehta has been appointed Captain of the 2nd XI.

The 1st XI tour this year will take place in Sussex in mid-August.

CROSS COUNTRY CLUB

Four matches were held in the second half of the season, the results of which showed a great improvement on those held before Christmas.

February 2nd, v. Wye College at Wye

RESULT: 1ST, BART.'S, 23 POINTS; 2ND, WYE, 32 POINTS.

Wye College rightly claims to possess one of the few true cross-country courses in the South. In the longest six miles which one is ever likely to encounter, no less than four hills present themselves. Each appearing to be far larger than the one before, and twice as steep.

However, this proved to be our first victory, which gave slight consolation to those who—"really shouldn't have eaten so much lunch before the run."

Bart.'s positions: 1st (equal), A. E. Dormer and J. I. Burn, 37 mins. 34 secs.; 3rd, P. D. Matthews; 7th, G. Wallace; 13th, J. Taylor; 14th, J. Nielsen.

Distance: 6 miles.

February 5th, v. Bristol University, v. Bagnor University at Bath

RESULT: 1ST, BRISTOL, 34 POINTS; 2ND, BART.'S, 42 POINTS; 3RD, BANGOR, 44 POINTS.

Notwithstanding the fact that this was the second race in one week, a creditable performance was put up against a strong Bristol side. Dormer was unlucky not to finish higher than he did, this being due to shoe trouble half-way round. J. Menon ran a well judged race to beat the Bristol University champion in convincing fashion by 10 seconds.

Bart.'s positions: 1st, J. Menon, 40 mins. 20 secs.; 3rd, J. I. Burn; 9th, A. E. Dormer; 18th, G. Wallace; 19th, J. Taylor; 20th, J. Nielsen; 21st, F. Montfort.

Distance: 6¼ miles.

February 12th, v. Kings College at Chislehurst

RESULT: 1ST, KINGS, 14 POINTS; 2ND, BART.'S, 22 POINTS.

A sorry day for Bart.'s this, and one that it is prudent not to linger over any longer than is necessary. Suffice to say that we could do no better than find four runners only to compete against these old rivals of Bart.'s.

Another splendid run by Dormer, well backed up by G. Wallace.

Bart.'s positions: 1st, A. E. Dormer, 41 mins. 20 secs.; 7th, G. Wallace; 11th, J. Taylor; 12th, J. Nielsen.

Distance: 6¼ miles.

February 19th, v. Barclays Bank at Norbiton

RESULT: 1ST, BARCLAYS BANK, 18 POINTS; 2ND, BART.'S, 37 POINTS.

This was a new fixture and proved a most enjoyable one. The Bank proved too strong for us, but the distance was in their favour and we were by no means disgraced. What made the day even more pleasant was the fact that Mick Glanvill was able to take time off from his R.A.F. duties to come and run for the Hospital.

Bart.'s positions: 4th, J. I. Burn, 45 mins. 35 secs.; 6th, A. E. Dormer; 9th, M. E. Glanvill; 10th, G. Sparrow; 14th, G. Wallace.

Distance: 7½ miles.

UNITED HOSPITALS CHAMPIONSHIPS

March 12th at Petersham

RESULT: 1ST, BART.'S, 31 POINTS; 2ND, GUYS, 55 POINTS; 3RD, MIDDLESEX, 61 POINTS; 4TH, LONDON, 63 POINTS.

The Championships were held over the United Hospitals' new course at Petersham, which winds its way through Richmond Park to the Kingston Gate, a steep climb up to the Common, and thence home through the bracken and trees.

Bart.'s was well represented in a large field of over 30 runners from five Hospitals. As expected, J. A. Menon took the lead early on in the race, and never lost this position. His time of just over 29 minutes for the five miles was good, and with greater opposition would no doubt have been much nearer the record for the course. This was his second successive victory in the Championships and a fitting conclusion to a successful season.

Other Bart.'s runners were well to the fore, and with five men home in the first 12 the Kent-Hughes Cup was ours for the fourth year in succession.

Bart.'s positions: 1st, J. Menon, 29 mins. 0.7 secs.; 3rd, J. I. Burn; 4th, A. E. Dormer; 8th, H. B. Lee; 11th, P. D. Matthews; 14th, M. E. Glanvill; 15th, G. Wallace; 21st, J. Taylor; 26th, J. Nielsen.

Distance: 5 miles.

So ended a season which started somewhat shakily, improved slightly as time went on, and ended on a triumphant note in the one victory which really mattered.

A special word of praise is due to Messrs. Dormer, Nielsen, Taylor and Wallace who gave the Club their fullest support throughout the season.

J. I. B.

SUMMER SEASON, 1949.

At the recent A.G.M. of the Athletic Club, the following officers were elected for the coming year:—

President: Mr. H. B. Stallard, F.R.C.S.
Captain: J. I. Burn.
Vice-Captain: J. A. Menon.
Hon. Secretary: P. D. Matthews.
Assistant Secretary: A. E. Dormer.

SPORTS DAY THIS YEAR WILL BE HELD ON SATURDAY, JULY 2nd.

WOMEN'S HOCKEY CLUB

The Women's Hockey Club, which was formed last October, has played five matches this season. Two of these were won and three lost, Middlesex Hospital Radiographers, Bromley High School and Dickensons Ladies' Club proving too strong for us.

Professor Wormall has consented to become President of the Club, which was captained this season by Eileen Caldwells.

We should like to thank the men's hockey club for the help they have given us, and Mr. White for his co-operation.

MEDICINE IN SHAKESPEARE'S TIME

By M. J. CLARKE-WILLIAMS.

"... by which the reader is convinced, I hope, of the infignificance of Hypothefes, and the importance of Obfervation ..."
—Francis Clifton, M.D.
"A Plan for the Improvement of Phyfick." 1732.

The period to be described is not strictly that of Shakespeare's lifetime, for he was born at a time when the changes affecting Medicine, and indeed every branch of learning, were already under way. In order to view the state of Medicine existing during his lifetime one must therefore go back to the dawning of the sixteenth century. Such a study forms a background to the medical references, which are to be found in Shakespeare's plays. Nor is it intended to confine this study to the state of medical knowledge in England but rather to range across the century seeking the important discoveries and the men whose contributions to Medicine were the greatest. Most of the work was, it is true, carried out abroad but certain Englishmen appear among the famous doctors of the period. Despite the tedious methods of travel between one country and another, new discoveries in science were fairly rapidly disseminated throughout the civilized world. And it is fair to assume, I believe, that the state of medical knowledge in England was, in broad outline, similar to that co-existing in other countries where medical thought was advancing more swiftly.

The Renaissance in learning came late to England, but when it came it produced the Golden Age, far surpassing the Italian Renaissance which it followed by so many years. Little or no progress had been made in Medicine in the Middle Ages and Early Renaissance: the surgeons and physicians were for the most part insignificant. It has been said that the great Elizabethan glory shed little of its light upon our profession, and yet it was a great phase of consolidation and re-orientation of medical thought. It followed a period of thirteen hundred years during which medical knowledge far from remaining stationary, actually retrogressed. The dogmatic authority of the ancients was now for the first time questioned and scientists began again to look for themselves rather than accept without demur the views laid down by Galen and others.

It was in anatomy that the greatest advances were made during the 16th century. Physiology had not as yet been dissociated from anatomy, the latter being studied by dissection and the former merely inferred from the observed structure. Jean Fernel was the first to apply the word "physiologia" to a special branch of medical knowledge. In the early years of the century the many-headed genius of Leonardo da Vinci commands one's attention. The sheets of his anatomical drawings preserved in the King's collection at Windsor make a fascinating study. Mostly the text is illustrated with small drawings, though there are some full page ones as well. Interspersed throughout

the anatomical and physiological notes are mathematical calculations, architectural doodling and the artist's notes on faces and figures that have attracted his attention! Unfortunately these drawings and his illustrations for Marc Antonio della Torre's anatomical treatise were never published and in fact were unknown until 1898.

One year previous to the death of Leonardo da Vinci in 1515, there was born in Brussels a certain André Wesel, better known as Andreas Vesalius. He was the son of the apothecary to Emperor Charles V and after graduating at Louvain he decided to study medicine. For a time he worked in Paris under Sylvius, but soon he was dissatisfied with the way Sylvius subordinated all his teaching to the theories of Galen. He studied at several Universities before going to Padua where he received his doctorate of medicine in December, 1537. He was immediately offered the Professorship in Anatomy and Surgery, a post which he held for more than six years. By his careful dissection and observation he soon began to expose Galenic errors which had stood unchallenged for one thousand three hundred years. In association with the artist Jan Calcar, who had been a student under Titian, Vesalius produced "De Fabrica Humani Corporis," which was printed in Basel in 1543 by his trusted friend Oporinus, the Professor of Greek there. It is interesting to note that one of the illustrations in this book is reputed to be the source of the inspiration of Shakespeare's "Alas, poor Yorick . . ." scene in "Hamlet." The authority of Galen in anatomy, based chiefly upon dissections of the Barbary ape and the pig, was approaching its end. Vesalius met with fierce opposition not only from the older generation of anatomists but also from some of his own students. So powerful was this opposition that Vesalius, then only 29 years of age, could no longer stand against it; he left Padua and became court physician to Emperor Charles V. He held this appointment for 20 years until his death, returning from the Holy Land, in 1564. Despite the short period of his anatomical work he had caused an upheaval in anatomical thought, and his good work was carried on by many of his pupils, notably Miguel Serveto, Bartholomew Eustachio and Gabriele Fallopio. Throughout his work Vesalius strove to discover the true structure of the human body and later in life when his successor in the Professorship at Padua, Fallopius, corrected some Vesalian errors, Vesalius rather than refute the new teaching as earlier generations would have done, longed to return to the dissecting table and verify for himself these new observations. Indeed he was returning to resume the chair at Padua when his ship was wrecked off the Island of Zante, where he died.

The 16th century was a womb rich in eponymous anatomical structures, and it is not entirely coincidence that a large number of the names so commemorated are those of Vesalius's pupils. Alongside the names of Eustachius and Fallopius should stand that of Hieronymus Fabricus, who in 1600 published "De formato fœtu" and also did much work on the valves in veins, which was later to influence an English student of his, William Harvey. John Caius was reader in anatomy at the Barber Surgeon's Hall in the middle of the century, having studied anatomy at Padua with Vesalius, with whom it is said he was great friends. Anatomical instruction was not started in England until the latter half of the century and John Caius is believed to have been among the first teachers of anatomy in England. By an Act of Parliament of 1540 the bodies of four executed criminals were allowed annually to the Barber Surgeons for dissection. The dissections in those days were performed in public and were a well recognised "entertainment." Upon this groundwork of improved knowledge of anatomical structure were built the great advances in surgery in the 17th century and the breakaway of physiology and its establishment as a separate science.

Among surgeons too there was the general spirit of restlessness and although no very notable advances were made during the century in the practice of surgery, the considerable advances in anatomy had unsettled the authority of the ancients upon which surgeons had relied for so long. There was a re-assessment of current surgical practice, led principally by Ambroise Paré, and many old procedures that had proved effective, but had fallen into disuse, were revived. The chief operations which a surgeon at this time might be called upon to perform were lithotomy by Celsan, Marian, or Franco's methods; repair of herniæ; amputation of limbs; and various operations upon the skull. Paré, who was the most notable surgeon of this period, was born in 1509 and at the age of 20 came to Paris to study as a barber's apprentice. A large portion of his

surgical work was done with the army on the battlefield, where his particular interest was in the treatment of gunshot wounds, about which he wrote a classical treatise. He performed operations for hernia that did not involve castration, unlike most of those peformed by his contemporaries. Paré introduced podalic version into obstetrics and also the induction of labour for antepartum hæmorrhage. He devised many new instruments, re-introduced the ligature and revived the practice of amputating through healthy tissue instead of at the edge of the diseased part. Both Ambroise Paré and Felix Würtz (1518-1575) wrote books on general surgery that were superior to any previous works.

In the field of plastic surgery Gasparo Tagliacozzi of Bologna introduced an operation for the repair of the nose, that is still performed at the present time. In 1500 a Swiss sowgelder, Jakob Nufer, performed the first successful cæsarean section upon his own wife, who survived the ordeal to bear several further children normally. There is, however, some doubt as to its being a true cæsarean section for it is believed that it was an extra-uterine pregnancy. Post-mortem examinations were introduced into pathology by Antonio Benivieni, who performed over 20 such examinations on various diseased persons at the close of the 15th century. The general standstill in surgery during the 16th century and the plethora of "strangely-visited people, all swoln and ulcerous, pitiful to the eye, the mere despair of surgery," makes one wonder why the 16th century was so poor and the 18th so rich in great surgeons. The late Professor Clifford Allbutt, in writing of the surgery of this period, posed the question: "If Italy while mistress of the formative arts produced great surgeons, does the poverty of England in these arts illustrate its defects in surgery, until both arrived with Hogarth and Reynolds, Cheselden and Hunter?"

Just as Vesalius dominates anatomy during this period, Ambroise Paré surgery, so in medicine also there is one outstanding figure. It is the enigmatic personality of Philip Aureolus Theophrastus Bombastus von Hohenheim—Paracelsus. It is difficult to assess how much of him was genuine and how much sheer exhibitionist. He refuted the teachings of Galen, and indeed publicly burnt the works of Galen and Avicenna at his first lecture, but he did not substitute any satisfactory alternative. He built up a system of medicine based on his own imagination respecting only Hippocrates amongst the ancient writers. He did not however believe that diseases were due to changes in the primal bodies and he propounded the theory that they were morbid species that invaded the body. He taught that diseases were due to one of five causes: (1) Ens Astrale; (2) Ens Veneni; (3) Ens Naturale; (4) Ens Spirituale; (5) Ens Dei. Paracelsus even if no great doctor was an highly skilled chemist, he introduced mineral substances into therapeutics. And yet he wrote in his book "De Philosophia": "*Pulsus coninetur in firmamento; Physionomia in astris; Chiromancia in mineralibus; Spiritus in euro et zephyro; Febris in terræ motibus.*" Meaningless nonsense! His denunciation of the ancients though excessive did much good, for this was a time when physicians studied Galen rather than disease, and if Galen's remedies were successful so much the better for the patient; if not it was a fault in nature and man was not able to do anything further. Diseases that had been pronounced incurable by the old authority were left to progress without any attempt being made to cure them. Paracelsus did much to break down this old attitude. Alas, he led a debauched private life and died at the age of 48 as the result of a tavern brawl.

Jerome Cardan, a follower of Paracelsus, although an astrologer and mathematician primarily, was of the opinion that great physicians were born once in a thousand years and that he was himself the seventh! Medical practice at this time was a fantastic mixture of herb doctoring, quackery, superstition and magic. No treatment can be rational until the processes involved are understood, but in the 16th century little even had the virtue of being empirical. The age-old "Doctrine of Signatures" still largely governed treatment, yellow celandine being given for jaundice and kidney shaped beans for renal diseases. To a large extent medical treatment was given by unclassed hordes of itinerant cataract-couchers, lithotomists, herniotomists and booth surgeons, described by William Clowes, surgeon to St. Bartholomew's Hospital from 1575-1586, as "no better than runagates or vagabonds . . . shameless in countenance, lewd in disposition, brutish in judgment and understanding."

This was an age of epidemics, plagues and pestilential visitations. In England the first half of the century was marked by four

separate epidemics of the Sudor Anglicus or sweating sickness. The best contemporary description of this malady is by the famous Cambridge physician, John Caius, in: "A Boke or Counseill Against the Disease Commonly Called the Sweate or Sweatyng Sicknesse," by John Caius, doctour in physicke. London 1552. It is interesting to note that the first outbreak of this now unknown disease coincided with Henry, Earl of Richmond's landing at Milford in August, 1485. And that the last major epidemic was recorded in 1551. In 1563 the English harvest failed, famine was widespread and in its wake came the plague. No less than 20,000 people in London alone perished during it. In 1565 smallpox and measles swept through London and between 1596 and 1599 "malignant fevers" prevailed throughout England. Again in 1603, one year after the first performance of "Hamlet," London was ravished by the plague, which killed 36,000 people in the city. The practice of holding services in England for the Royal curing of Scrofula or the King's Evil continued throughout the century, the form of the service only differing from one reign to another. Leprosy was on the wane; but venereal diseases were increasing, gonorrhœa became common about 1520. Hieronymus Fracastorius published a poem in 1530, which he had written nine years earlier, entitled "Syphilis, sive morbus Gallicus." It is from the name of the shepherd boy, Syphilus, that the disease takes its name. Fracastorius believed that "when there is a conjunction of many stars, under larger fixed stars, it may then be predicted that a contagion is about to spread." It was Jean Fernel (1497-1558), Professor of Medicine at Paris, who brought together in "Universa Medicina" what is probably the most systematic and comprehensive exposition of the state of medical knowledge in the first half of the 16th century. He has been called "the Restorer of the Science of Medicine."

In order to place the various advances in medical knowledge during the 16th century in perspective, it would perhaps be convenient to take the case of a student in the 16th century who is transported to the present day. Were he a student at the commencement of that century his knowledge of medicine and surgery would be of no avail to him in comprehending present medical diagnosis and treatment. Even a student at the close of the century would be little if any more enlightened. However, in the case of anatomy it would be quite different. The 1505 anatomy student would be as ignorant as his fellows studying medicine or surgery, but those who studied Vesalius's work in the latter part of the century would be at home in any modern dissecting room. Their terminology is the same as that used to-day to a large extent, despite the Birmingham revision. Indeed one might say that a close and careful study of "De Fabrica Humani Corporis" would provide sufficient anatomical knowledge to pass a Second M.B. Anatomy Paper without difficulty! That Shakespeare knew of the "Fabrica" is more than probable and the clues to most of his medical references must lie amongst other contemporary medical literature which was known and studied by the Poet.

BOOK REVIEWS

CARDIOLOGY, by William Evans, M.D., D.Sc., F.R.C.P. Butterworth & Co. Ltd., pp. xi + 310. Price 35s.

This book, a companion to the same author's "Cardiography," is one which will be of great value both to student and practitioner.

Based on the author's wide experience as a cardiologist, it contains many points of practical wisdom. It does, however, express the personal views of the author, some of which are not universally accepted, and for this reason the student facing his examiners must exercise a certain degree of caution.

Percussion of the heart, for example, though regarded by many cardiologists as obsolete, still remains, before most examining boards, a cardinal manoeuvre in cardiac examination. The general mist which beshrouds the interpretation of the less common heart murmurs and sounds, is here swept away in well set out differentiation of their varying significance.

The book is full of excellent illustrations and X-rays, but it might be argued that physical examination, discussed in three pages, has been neglected at the expense of radiography, five pages, and electro cardiography, four pages.

However, the merits of this book far outweigh its demerits and it should find an important place in all medical bookshelves.

The book itself is attractively produced and well bound.

INTRODUCTORY BOTANY, by Alexander Nelson. E. & S. Livingstone Ltd., pp. viii + 479. Price 22s. 6d.

This is an excellent book, and will be welcomed by all students who study Botany in the preliminary stages of their degree courses.

It has three main sections. The first is on the morphology, anatomy, and reproduction of the flowering plants; the second covers the lower plant groups; and the third deals with the physiology of plants, including sections on ecology and genetics.

The author has, naturally, selected certain plant types for detailed study, but he has rightly put these studies in their right perspective by giving the reader glimpses of the wider expanse of the plant kingdom, and by indicating the relations between one plant group and another.

The section on plant physiology is well developed. Relevant physical and chemical phenomena are first described, and then these are used to illustrate the fundamental physiological processes in the plant, such as water utilisation, photosynthesis, respiration, nutrition, etc.

The diagrams are good, and thoroughly uphold the higher standard shown in modern biological text-books.

The book is pleasant and interesting to read, in spite of the fact that the author has had to condense a lot of information into an economic space.

The subject matter of this book is far greater than that required by students of this College for their first year work, and the reviewer hesitates to recommend it for this reason. If a student is interested in reading outside the syllabus of the 1st M.B. examination he will find the book admirable.

AIDS TO PSYCHOLOGY, by John H. Ewen. Third Edition. Ballière, Tindall & Cox, pp. vii + 192. Price 5s.

This little book gives a well judged and interesting birds-eye view of a subject still regarded by many as a civilised form of witchcraft. It gives as best it can the many divergent theories existing in this field and serves well as an introduction to more extensive reading.

AN ELEMENTARY ATLAS OF CARDIOGRAPHY, by H. Wallace Jones, E. Noble Chamberlain and E. L. Rubin. John Wright & Sons Ltd., pp. 108. Price

This very useful little book will fill a gap in knowledge of many a student and practitioner. Its subject matter electro-cardiography and cardiac radiography has been set forth with most admirable conciseness and simplicity without losing any of its value for the reader. It consists chiefly of well chosen electro-cardiograms and cardiac X-rays, with short explanatory notes beneath each one. The need for a book of this nature has long been felt and the authors should be congratulated on such a very helpful precis of the subjects with which they deal.

HANDBOOK OF SURGERY, by Eric C. Mekie and Ian Mackenzie. Second edition. E. & S. Livingstone, pp. xvi + 764.

The second edition of this handbook has been considerably revised in order to allow for the rapid changes in treatment and custom which have lately taken place. Separate sections have been included dealing with chemotherapy and other drugs of recent vintage. It has, however, retained the same general character of its predeccessor. The scope of a hand-book must be limited, but in the space of its 764 pages the author has managed to include nearly all matters which the unfortunate examinee might be expected to know; it is, essentially, a book for such a person.

FIRST STEPS IN CHILDHOOD, by G. M. Kerr, M.B., B.S. Clerke & Cockeran, pp. 120. Price 3s. 6d.

The aim of this book is to answer the general questions occuring to a mother, while indicating the necessity of personal qualified advice for special problems. The sub-title, "A commonsense guide to the physical and mental welfare of children from the time of weaning to the age of seven," fully expresses the scope of the book and the achievement of the author. There are useful chapters on diets and minor injuries, and a list of medicine-cupboard essentials. Advocacy of vaccine treatment for whooping-cough is the only important mistake in a book which should be useful to all mothers and many doctors.

HINTS ON PRESCRIBING, by J. B. Primmer, M.B., Ch.B., D.P.H., J.P. Research Books. Pp. vi + 51. Price 3s. 6d.

This is a hand-list of prescriptions designed for economical general practice under the National Health Service Act. It consists of well-worn, and in some cases outmoded remedies, faithfully transcribed from other works, and nearly all in Apothecaries' notation. The author condemns poly-pharmacy; and himself indulges in what might be called polydiagnosis, or the treatment of the manifestation without reference to the disease. The book cannot be recommended to the general practitioner, who could compile a better list himself, nor to the student, who is obliged to be more specific: but it is generously interleaved with blank pages for the reader's own additions, or comment.

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TEXTBOOK OF MIDWIFERY, by Margaret Puxon, M.D., M.R.C.O.G. First Edition. Sylviro Publications Ltd., pp. 326. Price 25s.

This is the first appearance of a work which, as the preface says, takes a course between the examination synopsis and the annotated work.

The text is short and precise, the subjects are well laid out and thoroughly written. The wording is in a very readable form.

However, it remains to be seen whether students and practitioners are prepared to pay as much for a handbook, printed on rather inferior paper, as they would for a textbook of Obstetrics.

D. A.

CUNNINGHAM MANUAL OF PRACTICAL ANATOMY. Revised and edited by Professor J. C. Brash, M.C., M.A., M.D., F.R.C.S., Ed., F.R.S.E. Eleventh Edition. Vol. I—General introduction; upper limb, lower limb, with 44 plates (including 44 radiographs) and 144 illustrations. Oxford University Press. Price 21s., pp. XIX + 387.

The latest edition of this famous dissecting manual is edited by Professor J. C. Brash alone, Dr. E. B. Jamieson having retired.

Although the broad outline of the previous edition remains substantially the same, there has been a complete revision of the text which has led to a considerable reduction in length.

This reduction is welcomed from the point of view that any amount of unnecessary reading is always undesirable, but, at the same time, some of the lighter passages which have been omitted tended to relieve the burden of continuous concentration for the student reader.

Whereas the text-illustrations remain for the most part unaltered, many of the older radiographs have been replaced by a new series which includes some very fine specimens of injected arteries which are a great improvement on their predecessors.

It is to be regretted that other text books which enjoy a comparatively safe life could not all be printed, bound, and produced as beautifully as one which is so soon despoiled by its intimate association with the dissecting table.

MEDICAL AND NURSERY DICTIONARY AND ENCYCLOPAEDIA by Evelyn Pearce. Ninth Edition. Faber & Faber Ltd., pp. V + 723. Price 17s. 6d.

Compilers of medical dictionaries are at a constant disadvantage compared to their colleagues in the spheres of language. For the latter the majority of additions between editions tend to be in the nature of slang and may be omitted or included according to their feelings on the subject. With medical subjects the scope is always changing and at such a speed that parts of the book may become out-of-date from the time the proofs are read to its appearance in the libraries.

Miss Pearce has completely reversed and enlarged her popular work which will be welcomed by student nurses as an aid in the preparation for exams., and by those qualified as a source of reference.

The book deals with a very wide range of diseases and, in those in which nursing plays the major role, in detail. Some of the information is unnecessary and might be omitted; for example, the paragraph on electricity, which is presumably intended for those knowing nothing of the subject, would tend to hinder rather than help the novice. Again, when dealing with the heart, it is alleged that the bundle of His "acts as, and is frequently called," the pace-maker: apart from the fact that the information is incorrect, one feels that such knowledge is of little value to the nurse. In view of its continual use in the diagnosis of heart disease, some mention of the electrocardiograph would be welcomed.

However, despite such minor criticisms, it is a useful book and, considering its size, moderately priced.

ANNOUNCEMENTS

DEATHS

BREWITT. On February 14th, 1949, in South Africa, aged 90, James Burney, M.R.C.S., L.S.A.

HAYWARD. On March 12th, 1949, aged 83, John Arthur, M.D., F.R.C.S. Late House Physician to Sir William Church and Sir Francis Champneys.

CHANGE OF ADDRESS

Dr. Noel Chilton to The Shieling, Earl's Colne, Essex.

CAMBRIDGE GRADUATES CLUB OF ST. BARTHOLOMEW'S HOSPITAL

The Club will be holding a sherry party on Friday, May 20th, in the library. Will any Bart.'s-Cambridge graduate who has not received a notice to this effect, and who wishes to attend the meeting, please inform either Mr. H. Jackson Burrows or Dr. Kenneth Black (Secretaries) enclosing their address and membership subscription of 10/6.

SCHOLARSHIPS AND PRIZES

BRACKENBURY SCHOLARSHIP IN MEDICINE	Not awarded.
BURROWS PRIZE	Not awarded.
SKYNNER PRIZE	J. G. WIDDICOMBE.
BRACKENBURY SCHOLARSHIP IN SURGERY	P. A. FREEMAN.
WALSHAM PRIZE	G. H. C. MELOTTE.
WILLETT MEDAL	G. H. C. MELOTTE.
ROXBURGH PRIZE	M. KAYE.
KIRKES SCHOLARSHIP AND GOLD MEDAL	A. D. MUNROE-FAURE (Scholarship) Medal not awarded.
MATTHEW DUNCAN MEDAL AND PRIZE	J. B. DOSSETOR (Medal not awarded).
SENIOR SCHOLARSHIP IN ANATOMY/PHYSIOLOGY/BIOCHEMISTRY	G. TARNOKY.
Prox. Access.	J. Cook, N. S. Painter.
HARVEY PRIZE	J. S. DODGE.
HERBERT PATERSON MEDAL ...	H. I. LOCKETT.
Prox. Access.	J. Cook.
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TREASURER'S PRIZE	J. F. PEARCE.
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